

10 through [the] said electric conductors [(12, 13)], and further comprising in each case a tunnel
11 dielectric [(35;51) is provided] between two adjacent magnetic layers [(31, 32; 41-46)].

Please amend claim 2 as follows:

1 2. (amended) The magnetoresistive read/write memory as claimed in claim 1, in
2 which [the] said magnetization directions [(33, 34; 46-50)] that can be set independently of
3 one another in [the] said individual layers [(31, 32; 41-45) are set or] can be set via different
4 current intensities.

Please amend claim 3 as follows:

1 3. (amended) The magnetoresistive read/write memory as claimed in claim 1 [or
2 2], in which [the] said electric conductors [(12, 13)] are designed for high current densities.

Please amend claim 4 as follows:

1 4. (amended) The magnetoresistive read/write memory as claimed in [one of]
2 claim[s] 1 [to 3], in which [the] said magnetic layers [(31, 32; 41-45)] are formed from a
3 ferromagnetic material.

Please amend claim 5 as follows:

1 5. (amended) The magnetoresistive read/write memory as claimed in [one of]
2 claim[s] 1 [to 4], in which [the] said intersecting conductors [(12, 13)] are aligned
3 orthogonally to one another.

Please amend claim 6 as follows:

1 6. (amended) The magnetoresistive read/write memory as claimed in [one of]
2 claim[s] 1 [to 5], in which [the] said tunnel dielectric has a thickness of 2 to 3 nm.

Please amend claim 7 as follows:

1 7. (amended) A method of writing to a magnetoresistive read/write memory as
2 claimed in [one of] claim[s] 1 [to 6], having the following steps:
3 a) impressing a variable electric current into [the] said two electric conductors
4 and, as a result, producing a magnetic field;
5 b) setting [the] said magnetization direction in [the] said individual magnetic
6 layers of [the] said multilayer system via the field strength of [the] said
7 magnetic field produced. [the] said magnetization directions in [the] said
8 individual layers being set independently of one another via respectively
9 differently high requisite field strengths, in such a way that [the] said
10 magnetization directions are set first in those layers which need the highest
11 field strength for this purpose and that [the] said magnetization directions are
12 then set in those layers which respectively need a lower field strength for this
13 purpose.

Please amend claim 8 as follows:

1 8. (amended) The method as claimed in claim 7, in which [the] said different
2 field strengths acting on [the] said layers are produced by currents of different magnitudes
3 being impressed into [the] said conductors.

Please amend claim 9 as follows:

1 9. (amended) The method as claimed in claim 7 [or 8], in which [the] said
2 different field strengths acting on [the] said layers are produced by means of a different
3 physical spacing of [the] said layers in relation to [the] said conductors.

Please amend claim 10 as follows:

1 10. (amended) The method as claimed in [one of] claim[s] 7 [to 9], in which the
2 setting of [the] said magnetization directions in [the] said layers on the basis of field strengths
3 of different magnitudes are influenced by the layer material and/or the layer thickness and/or
4 the layer morphology.

Please amend claim 11 as follows:

1 11. (amended) A method of reading from a magnetoresistive read/write memory
2 as claimed in [one of] claim[s] 1 [to 6], having the following steps:
3 a) impressing a defined item of data into [the] said individual layers of [the] said
4 multilayer system in such a way that the item of data is first impressed into
5 that layer which needs the lowest field strength to set [the] said magnetization
6 direction, and that the item of data is then impressed into [the] said layers
7 having the respectively next higher requisite field strength; and
8 b) detecting a possible information change in [the] said layer or [the] said layers
9 on the basis of [the] said impressed defined item of data.

Please amend claim 12 as follows:

- 1 12. (amended) The method as claimed in claim 11, in which the detection of a
- 2 possible information change in [the] said layer or [the] said layers is carried out by measuring
- 3 the electrical resistance.

Please amend claim 13 as follows:

- 1 13. (amended) The method as claimed in claim 11 [or 12], in which the detection
- 2 of a possible information change in [the] said layer or [the] said layers is carried out via
- 3 detection of current and/or voltage pulses.

Please amend claim 14 as follows:

- 1 14. (amended) The method as claimed in [one of] claim[s] 11 [to 13], in which the
- 2 detection of a possible information change in [the] said layer or [the] said layers is carried out
- 3 before and after [the] said impression and/or during [the] said impression of [the] said
- 4 specific item of data into [the] said layer or [the] said layers.

Please amend claim 15 as follows:

- 1 15. (amended) The method as claimed in [one of] claim[s] 11 [to 14], in which
- 2 [an] said item of data with respectively the same value is successively impressed into all [the]
- 3 said layers.